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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,767	11/24/2003	Jack A. Smith	090936.0529	4914

31625 7590 11/29/2006

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EXAMINER

DWIVEDI, VIKANSHA S

ART UNIT	PAPER NUMBER
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3746

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/720,767

Applicant(s)

SMITH ET AL.

Examiner

Vikansha S. Dwivedi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,17-21,26 and 29-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,17-21,26 and 29-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 19, 21, 26, 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Battah, 4,330,237 in view of Gagnon 4,496,286 and further in view of Redfield 1,616,991.

Battah discloses a method and system for controlling natural gas compressor and engine units, as seen in Figure 2; compressor 10 contains 8 (multiple) cylinders.

Gagnon discloses a system and method for controlling an internal combustion engine (22), a gas compressor (21), and a controller (44). The controller receives compressor operating values of compressor suction pressure (30) and discharge pressure (29) (Also Shown in Figure1). Gagnon does not disclose varying "load steps". Redfield teaches varying load steps by selectively controlling the load. (Page 2, lines 26-37 and Figure 1). At the time of invention it would have been obvious to one of ordinary skill in the art to modify Battah in view of Gagnon and further in view of Redfield to have a loading/unloading system that is effective, responsive and reliable as it changes the capacity smoothly to achieve a smooth control.

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Claims 17, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Battah i. v., Gagnon, i. v., Redfield and further i. v., Marshall et al 5,997,259.

Battah and Gagnon in view of Redfield disclose the invention substantially as claimed by the applicant. Gagnon has a gas-fueled engine and where the pilot fuel is injected into the pre chamber (Fuel Supply system, Column 5 line 42). Gagnon does not specifically identify the pilot injector although it is believed inherently present as part of the fuel delivery system. Alternately, Marshall discloses a diesel engine with a fuel injector (23, Column 4, lines 41-44) for enhanced fuel distribution. Marshall also provides his engine arranged has advantages and thus provide motivation for modifications (Column 4 and 5). At the time of invention it would have been obvious to one of ordinary skill in the art to modify the teachings of Gagnon in view of Marshall, by using a fuel injector to inject the pilot fuel of Gagnon, in order to enhance the distribution of the pilot fuel.

Method claims 33– 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Battah i. v., Gagnon, i. v., Redfield and further i. v., Marshall et al 5,997,259 because the prior art apparatus performs the method steps as claimed.

Response to Arguments

Applicant's arguments with respect to claims 1, 19, 21, 26 and 29-32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vikansha S. Dwivedi whose telephone number is 571-272-7834. The examiner can normally be reached on M-F, 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on 571-272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vikansha

VSD

November 27, 2006

Ehud Gartenberg

**EHUD GARTENBERG
SUPERVISORY PATENT EXAMINER**